



**METHOD OF REDUCING FRAUD IN CREDIT CARD AND OTHER E-BUSINESS
TRANSACTIONS**

The invention relates generally to a method of credit card transactions; and more specifically to a method of transacting a credit card, wherein an authorized user limits the exposure to fraud.

The invention claims the priority filing date of September 19, 2000, which is the filing date of the predecessor provisional patent application entitled "Method Of Reducing Fraud in Credit Card and Other E-business Transactions", bearing serial number 60/233733 and pending before the United States the Patent and trademark Office.

BACKGROUND OF THE INVENTION

Credit cards have an expanded role in business, especially with the advent of e-commerce. Now, not only are cards accepted when presented in person at a store of a member merchant, but also in the total absence of a brick and mortar member merchant, the card or the person representing himself to be an authorized user. The vastly enhanced flexibility of use has come at a cost, increased credit card fraud. The threat of fine and imprisonment is not always a sufficient deterrent to prevent fraud, and there has been a disproportionate increase in abuse against sales volume. To deter abuse, a number of anti-fraud initiatives have been instituted by credit card processors (i.e. Visa, Discover, American Express, MasterCard), fiduciary institutions (i.e. banks, credit unions, large vendors, governmental entities), and organizations that serve the fiduciary institutions and processors (i.e. telephone companies, software companies, computer manufacturers, secure service encryption providers).

In general, the cost of implementation of anti-fraud initiatives has been borne by the member merchants, small businesses, and individual authorized users. The member merchants have had to install much more sophisticated encryption transaction devices to confirm a sufficiency of credit in the card account, and also update the member merchant of his own credit status. The encrypted communication prevents accidental disclosure of the details of the transaction to a potentially felonious, or otherwise interested, party.

5 Authorized Users, whether individuals or businesses, have to provide more detailed
personal and financial information, which can result in the very real perception in an
unacceptable level of personal invasion of privacy, at a questionable level of overall
reduced fraud. A representative example of an invention designed to cut down on fraud
at the cost of personal intrusion is 6,095,413. Donald Tetro et al, of Automated
10 Transaction Corporation, disclose a method, wherein it is asserted that transactions are
made more secure by checking the card account number against the user's social security
number. The account number and the social security number, which are already in the
bank's database, are kept in yet one more database, so that the two can be compared.
Kevin Rowney et al, of VeriPhone, discloses in 5,987,140 an invention illustrative of a
15 system having enhanced security using encrypted communication through "a plurality of
computer systems" between the merchant, the customer and the requisite number of
middlemen. The underlying theme of these anti-fraud initiatives is that the problem can
be controlled with increasingly more robust security measures, where security measures
are militaristic in their origin. A necessary corollary to enhanced security is increased
20 knowledge of the user. By contrast, a working caveat for the smooth flow of business is
to keep it simple and cost effective. An extension of the historical approach tends to hurt
business. A resource for reducing fraud that has been generally overlooked is the
potential contribution of the credit card account holder. An exception to that is Robert
Checchio's patent number 6,052,675, assigned to AT&T, Corporation. Checchio
25 describes a method wherein, prior to a purchase, the card holder notifies a member
association having a database processor, that he is going to make a purchase at X time for
Y dollars from Z merchant. Then, when he actually makes the purchase, he just presents
his card to the merchant, who contacts the member association for confirmation. While
no doubt the foregoing method ought to reduce fraud, it is cumbersome for general
30 utility. Additionally, if for some reason the item had to be returned or was on backorder,
then the transaction becomes much more complex. From the merchant's perspective it
would probably also require joining an additional member association. Impulse buying is
eliminated. What is desired is a method that would have the benefits of the Checchio
invention, without the constraints. A method wherein the authorized user is
35 empowered, and as such, actively participates in the administration of his credit card

5 account, where the account has a usage line where the authorized user can create a
paradigm that defines the criteria under which the credit line can be accessed. It would
be desirable that the paradigm not simply be an isolated transaction pre-authorization, but
rather a reflection of the users concerns, tastes and lifestyle.

10

SUMMARY OF THE INVENTION

The invention is a method of conducting credit card and other types of e-business
15 transactions, wherein practicing said method results in a much lower incidence of fraud.
The method is inclusive of transactions conducted by personal communication and by
electronic communication; wherein electronic communication includes telephonic,
computerized, digitized, optical, radio, fax, televised, wire, laser, and telepathy. In the
context of this document the phrase *credit cards* have a generic meaning that
20 encompasses all of the variations and derivations of the same, including check cards,
ATM cards, bank cards, credit cards, gift certificate cards, and accounts administered
over the Internet.

It is an object of the present invention that the method pertains to a credit card
account that has a usage line, which is administered by the credit card holder, where the
25 usage line has a paradigm that defines the criteria under which the credit line can be
accessed. In most instances, the transaction refers to a pending approval of a purchase. A
variation of the usage is a pending cash advance request.

A second object of the invention is that the method has enhanced security
without unduly adding to the cost or to the speed of a transaction. To this end,
30 transaction decisions will not necessarily require hubs with a multiplicity of computers -
requiring essentially simultaneous communication, but will have greater input from the
cardholder, where the cardholder has a vested interest in reducing fraud.

A third object of the invention is that the trend toward ever increasing complex
encryption and cross-checking against obscure artificial numbers and passwords will be
35 offset by the inclusion of the usage line. The usage line is idiosyncratically human in its

5 focus, dealing with traditionally human issues like buying patterns, travel plans, preferred
merchants, timeframes and geographic considerations. Constraints on the size and
frequency of transactions can be incorporated into the usage line. Because the usage line
is more involved with human concerns it will therein be friendlier to use without loss of
complexity. The usage line can also set a trigger number for the rejections of the card,
10 and if the card is rejected how does the cardholder want to be contacted, and whether the
account is to be suspended. Credit cards used by businesses or government entities
would tailor their criteria to reflect their needs. Restrictions on purchases that have no
connection to legitimate business concerns could be blocked.

15 A fourth object of the invention is that within the method there can be merchant
incentives and cardholder incentives built into the authorized user account that would
encourage purchasing from a specified merchant. For instance grocery stores could
compete for customers by offering various discounts if the user shops at their store.

20 A fifth object of the invention is that the method includes one or more
mechanisms by which the authorized user can view his or her usage line. Currently, most
of the larger banks already offer Internet access to clients credit card accounts. Banks
also provide access by telephone. Additional measures to tighten the security for
accessing the usage line would not be necessary, because the usage line is used primarily
only to further constrain access to the line of credit. Therefore, the security systems
already in place should be adequate. It is envisaged that a cardholder that limits the
25 possibilities for fraud, possibly could be rewarded with a lower interest rate.

30 A sixth object of the invention is that the method includes a tracking means by
which the authorized user can see not only view transactions that were approved, but also
transactions that were declined. Preferably the tracking means will report the identity of
the merchant, a generic description of the merchandise, a date, an amount, and an
explanation as to why the transaction was approved or declined. The explanation can be
in the form of a code, like the banking term NSF, has come to be synonymous with
Insufficient Funds. The tracking means will be of great assistance to the cardholder in
analyzing foiled fraudulent attempts on the account. Additionally, in the shake out
phases of a new cardholder, it is important that both the merchant and especially the
35 cardholder have a good understanding of why a transaction was declined. The merchant

5 has used his resources to run the charge, and the cardholder is embarrassed by the
declination. The offering fiduciary institution and the card processor also need to have
confidence that they are processing the charges properly. Preferably the tracking means
will have a testing means to confirm whether a hypothetical purchase will be approved or
declined, as determined by the usage line. The preferred testing means is an interactive
10 algorithm that the authorized user can activate, where the algorithm generates a series of
hypothetical transactions based on the paradigm set up in the usage line, the results of the
transactions alerting the authorized user of potentially unwanted constraints.

A seventh object of the method is, that at the user's discretion, a pending merchant
approval for payment request must, additionally, receive the explicit approval or
15 authorization by the user; and where the authorization is conducted in real time, at the
time of the request. This object creates an automatic feedback to the user that a
transaction is pending until the user issues authorization.

In general banks are concerned with two questions. Is the presenter of the credit
20 card the authorized user, and does the user have sufficient wealth to approve advancing
him the requested funds. In short can the bank get its money back, so that it can be lent
again. These questions are not particularly aimed at preventing fraud. The cardholder
has a more direct, vested interest in preventing fraud as he will be charged initially, and
maybe ultimately, for the misappropriated funds, and as such it is his best interest to
25 prevent fraud at the merchant level rather than in a criminal proceeding after the fact. He
can do this by using his foreknowledge of his buying plans to narrow approve merchants,
applying windows of time when a transaction can be approved, and also specifying the
amount. In a general sense, he can also limit his exposure by limiting the number and
amount of the transaction. The banker could implement some of these restrictions, but as
30 a practical matter, to be of a sufficient deterrent to fraud, only the authorized user has the
detailed knowledge of his requirements to be able to narrow the window such that it will
have an impact. Therefore the cardholder must be administrator.

To be an effective administrator the authorized user must have ready access to the
usage line. Internet access would certainly be the simplest way to accomplish this on a
35 wide scale, however similar results could be achieved using an ATM, using a wireless

5 communication device, a line transmission device such a telephone or a facsimile, by postal mail, or in person. The later two methods would not be totally automated, and therefore less preferable from the perspective of increased cost to administer.

The invention is a credit card account with an authorized user and an issuing bank, where said credit card account has a line of credit and a usage line, where the usage line is a paradigm developed and administered by the authorized user, where the
10 paradigm is a set of criteria for granting permission to access the line of credit, such that at the discretion of the authorized user, a pending request for payment could require approval from both the authorized user and the issuing bank.

The invention works as described in a method consisting of the following steps.

- 15 1. An authorized user accesses his credit card account which has a usage line, where the usage line, which is solely administrated by the authorized user, is a paradigm that optionally defines approved merchants, approved times, coincident user approval, and other criteria as established by the user.
- 20 2. The user presents or communicates his credit card, at time of a purchase, to the merchant.
3. The merchant contacts a card processor, initiating a request that funds be transferred from the account to the merchant.
4. The card processor relays the request to an issuing bank for the credit card account.
- 25 5. The issuing bank individually processes the request through the account and through the usage line, said processing generating a first result for the account, and a second result for the usage line, where a usage line requirement can be the explicit, real time coincident user approval.
6. The issuing bank compares the results and issues a reply to the card processor
30 that the request is approved if both the first result and the second result are approved, or replies that the requests is declined if either result is not approved.
7. The card processor communicates the reply to the merchant.
8. The merchant completes the purchase, or notifies user that card was declined.

35

5 In a variation on the method, the card processor could serve as the hub for
comparing the first result and the second result. That is the usage line need not be located
within the bank, or even controlled by the bank. The usage line could be housed virtually
anywhere there is an Internet server having a database that contained the cardholder's
usage line. Examples of appropriate locations are the card processor, the merchant, or a
10 contract database provider having instant access. The usage line could even be housed by
the buyer himself, as in the case of large corporations or government entities. In this
scenario the card processor would send the merchant's request to the issuing bank and to
the buyer.

Note, that the usage line and the card account do not have to be processed serially.
15 This allows analysis of the merchant's request to speed up, because if the either decision
is no then the request will be denied. The use of parallel processing will frequently
shorten the time required to complete the transaction.

From the perspective of the authorized user, the process of creating and
administering the usage line. Where the usage line is associated with a bank issuing the
20 credit card would proceed by the following steps.

- a.) Establishing a credit card account with an offering fiduciary institution,
where the account has a usage line and a line of credit, and wherein,
ultimately, the account can be accessed and viewed on a computerized
screen;
- 25 b.) Setting communication protocols and security profiles for accessing the credit
card account for remote viewing of the account, where said account has an
activity register;
- c.) Opening the usage line and start building the paradigm that, optionally,
defines criteria for approving a credit card purchase; that, optionally, defines
30 criteria for automatic contact of the authorized user for explicit real time
approval, defines circumstances for the suspension of activity of the card,
defines criteria for a cash advance, and that turns on a tracking means;
- d.) Activating the card;

- 5 e.) Running, optionally, an algorithm that is a testing means, and, initiate,
optionally, at least one test purchase, preferably one that should be approved
and one that should be declined by the usage line;
- f.) Opening the activity register and the tracking means section of the usage line,
confirming that the desired transactions occurred;
- 10 g.) Reviewing, periodically, the activity register to confirm that there has been no
suspicious activity; and
- h.) Amending the usage line to reflect anticipated changes in spending habits,
such as a single large purchase having a narrow window of time, or a
purchase over the Internet with a new merchant.

15

The method for upgrading a conventional pre-existing credit card account, to an
account with a usage line would proceed through essentially the same set of steps, except
that the authorized user may have already viewed the activity register on line, so there
would be no need to establish protocols and passwords, as these would already be in
20 place.

20

BRIEF DESCRIPTION OF THE DRAWINGS

25

Fig.1 is schematic drawing of the invention, showing how the method functions with the
various entities involved in a credit card transaction. Dashed lines indicate
communication, solid lines indicate the movement of money, and double solid lines
indicate the movement of goods and services.

30 Fig. 2 is a flowchart of the steps in the method, in accordance with the description of the
preferred embodiment. As indicated above there are equivalents that that might better
suit a particular situation.

Fig. 3a - 3d are cascaded views of a screen showing various criteria that could be selected
by the authorized user.

35

DETAILED DESCRIPTION OF THE PREFERRED ILLUSTRATED EMBODIMENT

The invention is shown in the context of a common utilization of a credit card purchase. The Cardholder 1 has established an account with a bank 6 that issued the card. The cardholder is notified by the bank of the balance of his card account. Notification is usually communicated by mail. This communication is shown as dashed line 1.4. In turn, the cardholder is expected to send a payment. The movement of money is shown by solid line 1.3. When the cardholder buys goods and services they are transferred from a merchant 4 to the cardholder. The movement of goods and services is shown by a double solid line 1.5. The merchant has an account in bank 5, and when he receives payment monies are deposited into his account, as shown by solid line 7.3, and then to the merchant as he spends the money, shown by solid line 5.1. In a typical credit card purchase when the cardholder presents his card, the cardholder is representing that he is the owner of the card account, and as such can legally charge against that account. It is to the merchant's advantage to accept the cardholder at face value. In most cases, the merchant will not have personal knowledge of the cardholder, and infrequently even asks for an additional form of identification, or to check the signature on the back. With a telephone or Internet purchase these forms of confirming identification are not available. At the point of purchase the merchant 4 sends to the card processor 3 the information necessary to complete the transaction. The information needed is the merchant's identity, the cardholder's name, the type of card, the card number, the expiration date and the purchase price. In the case of a debit card a PIN number is also necessary. The merchant contacts the card processor 3, relaying the pertinent information as shown by dashed line 4.1; requesting that funds be transfer from the cardholder's account to his bank account. The card processor 3 checks his database for the name of the appropriate bank, and then sends the requests, dashed line 3.1, to bank credit card center 8. The credit card center inquires of the bank rules 9, shown as dashed line 8.1a if the cardholder has made his monthly payment and has sufficient line of credit 7 to cover the purchase price. The determination is communicated, shown as dashed line 8.2a from the card center 8 back to the merchant, as shown by dashed lines 3.1 and 4.2. If approved the merchant completes

5 the transaction, and funds are moved from the bank 6 to merchant's bank 5, as shown by dashed lines 7.1, 7.2 and 7.3.

In the invention the method of making a card purchase has been modified, but not so that it is perceptible to the merchant. The method greatly isolates the cardholder against use by an unauthorized user. The cardholder 1 creates a paradigm that reflects the cardholders approved merchants, time window for a purchase, and a limit of the size of the purchase, or he can elect to not change any of the rules governing access to his line of credit. The cardholder can also stipulate in the paradigm, that no request be approve unless explicitly approved by the user. The paradigm defines the criteria under which the user is to be contacted for approval. Typical conventions include email, instant messenger, automated telephonic communication such as telephone, cellular phone and pager. Alternatively, the user could be contacted at a web page, cable TV or radio or via wireless communication. The cardholder has the discretion of tracking all purchases and attempted purchases. The cardholder, after initially establishing security measures that typically already in place for administering checking accounts and credit card accounts, goes online and sets up a usage account 2. The online communication is shown by dashed line 1.1. The usage account lets him set the criteria under which his line of credit can be accessed. In the instant invention the usage line is shown to be an adjunct to his card account, but not under the banks direct jurisdiction. The usage line can be set so that under certain conditions, for instance an unsuccessful attempt to access the line of credit, he will automatically be notified. This is shown by dashed line 1.2.

In the scenario just described once the bank gets the request for payment, not only does the bank card center 8 send the request to the bank rules 9 for a determination on the available credit, it also sends the request on a parallel path, dashed line 8.1b, to the usage line 2. Processing results are passed along dashed line 8.2b, to a decision approval hub 10. If the requests is turned down by either the bank rules 9 or the usage line 2, the hub 10 can issue a non approval to the request, without having to wait on the other processing leg. The result of the comparison is communicated to the card center, as shown with dashed line 10.2, and back to the merchant.

Fig. 2 is a flowchart giving the steps in the method. The method in Fig. 2 has an additional step than the method disclosed in the Summary Of The Invention. In the

5 detailed embodiment the authorized user has elected to keep track of all requests for payment, so that those that are declined are in the record, as well those transactions that are successful.

Our attention is now turned to how the cardholder has set up the usage line. In the instant invention this was effected over the Internet at a secure web site created for the authorized user. Fig. 3a - 3d show how the web site might look. When the authorized user logs on for the first time he will be directed to a folder that contains the identity information. The folder is shown in Fig. 3c, number 33. In this folder the authorized user would enter changes in his password, a password prompting question and answer, a PIN number, and other information deemed important to connect the user to the identified numbered account. After updating the identity folder the authorized user would switch over to the merchant approval folder, shown in Fig. 3a, number 31. In the first option, the cardholder can choose to suspend any declaration of approved merchants by clicking on the radio button labeled "False" in response to the statement "No Merchants are Approved Any Time". This election takes away many of the fraud prevention features, however it might be the desired selection if the cardholder is getting ready to go on a trip. Under most circumstances the cardholder would choose one or more of the four listed exceptions. Exception 4 is most narrow, and it would probably be the criteria of choice if the cardholder is going to make a purchase from a merchant of unknown reputation, and the user wanted to limit the transaction to only those requiring user approval. The combo labeled contact is a list of options that define how the user wants to be contacted. For internet purchases email, would be a obvious selection. When the merchant enters his request for payment, then request would be routed to the usage line, where the request would be forwarded to the user 1.2, who in turn would issue an approval. The approval would go back to the usage line along route 1.1, where the approval is passed along to the decision hub 10. Exception 3 is the next most restrictive condition. Selecting exception 3 rule you can narrow the window of time when a request will be approved to just a matter of minutes. In the example shown the time is 7:00AM to 8:30 AM on both December 11th and 12th of the current year. The user in this example also checked Exception 2. The combo box entitled "Merchant", contains a list of approved merchants that the authorized user has selected. Exception 1 is the another set of preferences that

5 the user can select. It has the effect of setting up a selected window of time when the card account can be accessed. If an unauthorized user attempts to use the card, he might well be successful the first time however, it is unlikely he would know the approved window of time. The folder titled "Frequency Of Use" number 32, as shown in FIG. 3b, would likely foil the thief rather quickly. In this folder the authorized user defines
10 criteria that will limit the cardholders liability, by limiting the number of times that the card can be used and the maximum cost of any purchase. If an attempt is made to use the card more than allowed the authorized user, John H. Doe", has requested that he be contacted at the email address of devoe@visian.com. The address could be the user, the police, or other authorities named by the cardholder. In the folder entitled "Tracking
15 Parameters" number 34, in Fig. 3d, the user can select to keep a log of all transactions, and what information to keep. John Doe has wisely selected to keep a record. Not shown on this particular folder is where the record would be recorded. An obvious place is on the activity register of the credit card. In the second section of the Tracking Parameter folder is the question " Initiate a test transaction?" When selecting criteria for
20 the usage line, you want to know that the actual purchase will process like you believe that you have criteria set. This feature allows the user to confirm that idea the criteria are set up correctly. The default position of the radio button will be "no". Another tracking feature is keep track of the time. If you fine that processing time is slowing you may want to confirm this information. In the third section of the tracking parameters are the
25 criteria that establish to whose account money will be transferred in the case of a cash advance.

It is anticipated that the selectable parameters in the usage box will evolve as consumer demand changes. Businesses would adopt a different set of criteria to meet their needs. Also it is anticipated that supervision and physical location the usage line,
30 need not fall under the umbrella of a bank. In recognition of this the usage line 2 is drawn just outside of the perimeter of the bank in Fig. 1. Inviolable, is the sole right of the authorized user, or his assigns, to administer the usage line.